

**REMARKS**

Thorough examination of the application is sincerely appreciated.

Applicant wishes to thank the Examiner for the helpful suggestions regarding claim 1 and for indicating allowability of claims 2-8, 10-16 and 18-20

**Specification.**

1a. In response to the objection as containing “comprise,” Applicant’s representative is not aware of any case decisions or statutes that preclude the use of the word “comprise” in the abstract or any holdings that the word “comprise” is a “legal terminology” as asserted in the Office Action. If the examiner disagrees, he is respectfully requested to provide evidence – for review by Applicant’s representative – to support his position. In the absence of such evidence, the objection must be withdrawn.

1b. In response to the objection to the abstract as containing a title, a new abstract is attached for entry into the record. Entry of the new abstract and withdrawal of the objection are respectfully requested.

2. Application serial numbers and patent numbers for related applications are inserted into the instant specification, as requested by the examiner.

**Claims Objections.**

1. According to the Office Action, claims 1-8 and 17-20 were objected to for allegedly various informalities. Applicant’s representative traverses the objections.

2. Claim 1, line 5: this claim is amended to remove unnecessary limitation.

3. Claim 1, line 5: this claim is amended to remove unnecessary limitation.

4. Claim 1, lines 13-14 and also claim 17, lines 12-13: the examiner’s objection is not understood. Applicant’s representative respectfully requests the examiner to re-evaluate his objection: it is improper as the claim language is grammatically correct according to acceptable

usage of the English language. There is no ambiguity in the claims, and Applicant's representative refuses to add superfluous language, as suggested by the examiner, to make the claims prolix.

If the examiner maintains the rejection, he is respectfully requested to provide either a personal affidavit or a skilled artisan's affidavit indicating ambiguity in the objected text. In the absence of such affidavit, the objection cannot be properly sustained and must be withdrawn.

5. Applicant's representative maintains that the so-called part 1 and 2 in the DFE are connected. The examiner alleged that Applicant's so-called part 1 is from a transmitter. This is not understood, as the recitation clearly states (emphasis added) "wherein said first receiver comprises 1) a decision feedback equalizer for receiving said stream of distorted known symbols and distorted unknown symbols and generating a sequence of detected symbols and 2) a known symbol generator for generating a copy of a first known symbol prior to an estimation of said first known symbol by said decision feedback equalizer, said decision feedback equalizer using said copy of said first known symbol to reduce a precursor ISI signal in a second symbol, said second symbol being transmitted prior to said first known symbol." The examiner is requested to refer to Applicant's specification for support of the above features/limitations. Withdrawal of the objection is warranted.

### **Claims Rejections.**

Claim 1 was rejected under 35 USC 103(a) as being obvious over US Patent 5,692,011 (hereinafter "Nobakht") in view of US Patent 5,602,484 (hereinafter "Suzuki") and further in view of US Patent 6,269,116 (hereinafter "Javerbring").

In response, the rejection is respectfully traversed as lacking sufficient factual support and failing to establish a prima facie case of obviousness in accordance with the established cases and statutory law.

In the Office Action under subsection 1), the examiner alleges that Nobakht discloses a decision feedback equalizer, apparently corresponding to Applicants' feature of claim 1. For such disclosure, the examiner relies on Nobakht's FIG. 6. Applicant's representative has carefully reviewed the figure in the Nobakht patent and the entire patent, and failed to find such a disclosure on distorted symbols input into a trainer system, contrary to the examiner's remarks. Nobakht does not teach or suggest Applicant's feature of "a decision feedback equalizer for receiving said stream of distorted known symbols and distorted unknown symbols and generating a sequence of detected symbols" as recited in claim 1.

Perhaps, Applicant's representative has missed portions of the patent disclosing the above feature. Alternatively, perhaps the examiner relies on his personal knowledge. In either case, he is respectfully requested 1) to specifically point out column and line numbers where such a disclosure can be found in Nobakht; 2) to provide an affidavit stating facts within his personal knowledge; or 3) to provide a prior art reference stating the same, because the examiner's interpretation of Nobakht can't be supported by the record.

According to the Nobakht's description of FIG. 6, "FIG. 6 shows an overview of one embodiment of the present invention. The present invention is a hybrid equalization system using a Decision Directed Equalization (DDE) section called a trainer system and a modified Decision Feedback Equalization (DFE) section called a trainee system. As is shown in FIG. 6 the output of the trainer system 675,  $r_k$ , is used as input to the FeedBack Filter (FBF) 605 of the trainee system 695. In a typical DFE the output of the decision element is used as input to the FBF. By combining a DFE and a DDE into a single equalizer the present invention achieves significant advantages over prior art equalization techniques. The present invention uses two equalization systems: a trainee system and a trainer system. The trainer system is designed to continuously train the trainee system without the need for training sequences." Clearly, no training sequences

are disclosed in the patent. Yet, the examiner asserts otherwise. If the rejection is maintained, he is respectfully requested 1) to specifically point out column and line numbers where such a disclosure can be found in Nobakht; 2) to provide an affidavit stating facts within his personal knowledge; or 3) to provide a prior art reference stating the same, because the examiner's interpretation of Nobakht can't be supported by the record.

With respect to other allegations that Nobakht discloses Applicant's features of claim 1, it is respectfully submitted that no portions of the text is cited in the Office Action. Instead, examiner interprets FIG. 6 without any support in the patent for his remarks. Such practice is clearly prohibited by the courts and cannot possibly be sanctioned by the USPTO.

With respect to Javerbring, the examiner merely extracted ISI – not even precursor ISI – and inserted it into Nobakht, while completely disregarding Javerbring and Nobakht as a whole. As pointed out above, there is absolutely no disclosure in Nobakht on Applicant's distorted known symbols, as recited in Applicants' claim 1. Mere mention of ISI in Javerbring is not sufficient to correspond to Applicants' features as recited in claim 1.

Similarly, with respect to Suzuki, the examiner alleged a distribution controller by merely extracting an element from the patent, while completely disregarding the patents as a whole. .

Perhaps, the examiner relied on personal knowledge of the facts or those of a skilled artisan in the statement that "it would have been obvious ..." in the Office Action. If this is the case, then "particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." In re Kotzab, 1371. The MPEP provides guidelines for relying on official notice and personal knowledge, which the Examiner did not follow in this case:

The rationale supporting an obviousness rejection may be based on common knowledge in the art of "well-known" prior art. The examiner may take official notice of facts outside of the record

which are capable of instant and unquestionable demonstration as being “well-known” in the art ...

When a rejection is based on facts within the personal knowledge of the examiner, the data should be stated as specifically as possible, and the facts must be supported, when called for by the applicant, by an affidavit from the examiner. Such an affidavit is subject to contradiction or explanation by the affidavits of the applicant and other persons.

See MPEP §2144.03. If the rejection is maintained, it is respectfully requested that the examiner provide an affidavit stating facts within his personal knowledge or an affidavit by a skilled artisan.

It is respectfully submitted that to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143-§2143.03 for decisions pertinent to each of these criteria.

Analyzing the references according to the above roadmap, first the examiner offered an unsupported, conclusory remark, disguised as motivation, that “one of ordinary skill in the art ...” on pages 4 and 5 of the Office Action. Applicant’s representative respectfully submits that the examiner’s motivation is not understood. In addition, it is not clear what the basis was for such an assertion. There is absolutely no motivation or suggestion to combine the references, except on the basis of the impermissible hindsight and knowledge gleaned from Applicants’

invention. Such a practice is prohibited by the applicable law and cannot possibly be sanctioned by the USPTO. Picking and choosing elements from various references, while disregarding each reference as a whole, is clearly prohibited by the courts and cannot possibly be sanctioned by the USPTO.

Second, there is no reasonable expectation of success because the prior art references are not combinable. If the examiner disagrees, he is respectfully requested to indicate, based on the patents teachings, how the goal/objective of each patent fits with each other.

Third, Nobakht, Javerbring and Suzuki, even when combined, do not teach all of the Applicant's features as recited in claim 1. See the above discussion regarding known symbols and distorted symbols, for example. As argued above, the Applicant's features are not taught or suggested in the prior art references, and their combination is deficient in teaching or suggesting all the claim limitations.

Therefore, the cited references fail to render obvious the claimed invention, because the above-identified criteria are not met. The claimed invention, according to claim 1, is thus distinguishable over the cited references.

Analysis of independent claims 9 and 17 is analogous to the one of claim 1, as presented hereinabove. To avoid repetition, claims 9 and 17 will not be discussed in detail with the understanding that they are patentable at least for the same reasons as claim 1. Applicant, therefore, respectfully requests withdrawal of the rejection and allowance of claims 9 and 17.

In view of the above, it is respectfully submitted that Nobakht, Javerbring and Suzuki, whether alone or in combination, do not anticipate or render obvious the present invention.

An earnest effort has been made to be fully responsive to the Examiner's correspondence and advance the prosecution of this case. In view of the above amendments and remarks, it is believed that the present application is in condition for allowance, and an early notice thereof is

earnestly solicited. However, if for any reason this application is not considered to be in condition for allowance, the Examiner is respectfully requested to call the undersigned attorney at the number listed below prior to issuing a further Action.

Please charge any additional fees associated with this application to Deposit Account No. 14-1270.

Respectfully submitted,

By           /Larry Liberchuk/            
Larry Liberchuk, Reg. No. 40,352  
Senior IP Counsel  
Philips Electronics N.A. Corporation  
914-333-9602

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